

NPN Triple Diffused Planar Silicon Transistor

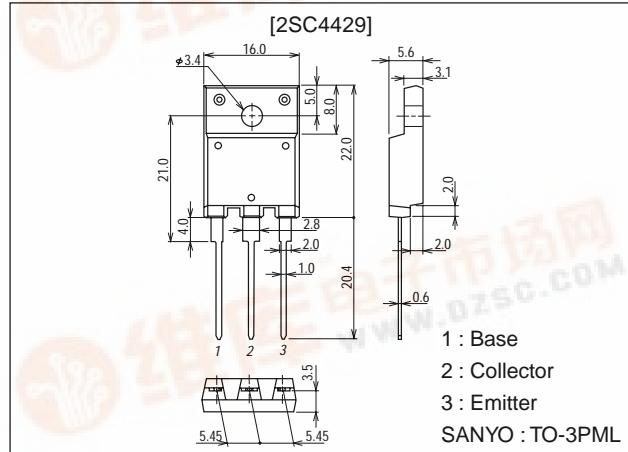
**2SC4429****SANYO****800V/8A Switching Regulator Applications****Features**

- High breakdown voltage, high reliability.
- Fast switching speed ( $t_f$  : 0.1 $\mu$ s typ).
- Wide ASO.
- Adoption of MBIT process.
- Micaless package facilitating easy mounting.

**Package Dimensions**

unit:mm

2039D

**Specifications****Absolute Maximum Ratings at  $T_a = 25^\circ C$** 

Parameter	Symbol	Conditions	Ratings		Unit
Collector-to-Base Voltage	$V_{CBO}$			1100	V
Collector-to-Emitter Voltage	$V_{CEO}$			800	V
Emitter-to-Base Voltage	$V_{EBO}$			7	V
Collector Current	$I_C$			8	A
Collector Current (Pulse)	$I_{CP}$	$PW \leq 300\mu s$ , duty cycle $\leq 10\%$		25	A
Base Current	$I_B$			4	A
Collector Dissipation	$P_C$			3	W
		$T_c = 25^\circ C$		60	W
Junction Temperature	$T_j$			150	°C
Storage Temperature	$T_{stg}$			-55 to +150	°C

**Electrical Characteristics at  $T_a = 25^\circ C$** 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=800V$ , $I_E=0$			10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5V$ , $I_C=0$			10	$\mu A$
DC Current Gain	$h_{FE1}^*$	$V_{CE}=5V$ , $I_C=0.6A$	10		40	
	$h_{FE2}$	$V_{CE}=5V$ , $I_C=3A$	8			

\*: The  $h_{FE1}$  of the 2SC4429 is classified as follows. When specifying the  $h_{FE1}$  rank, specify two ranks or more in principle.

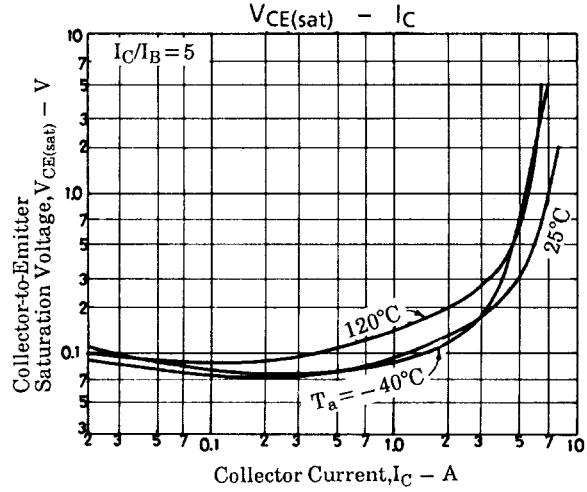
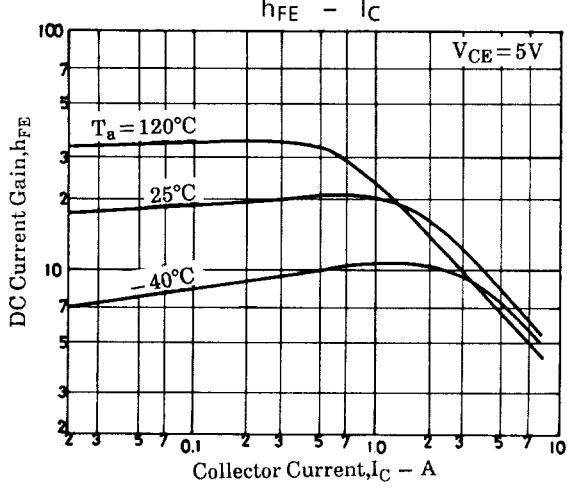
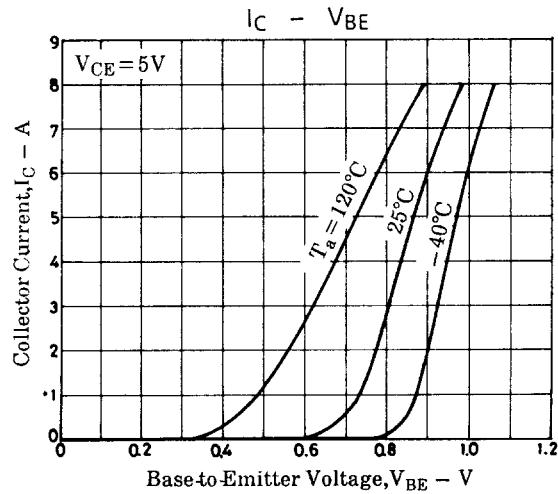
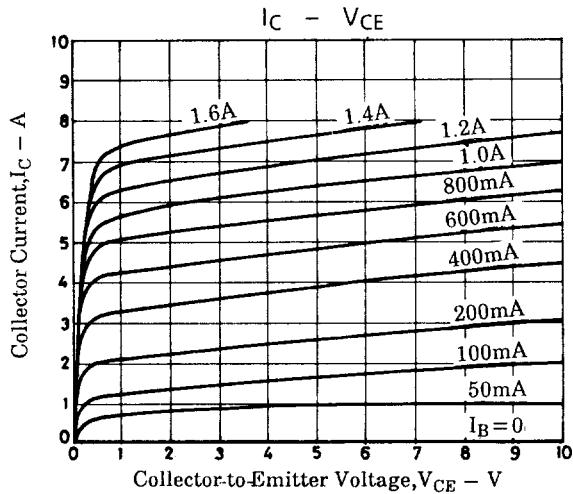
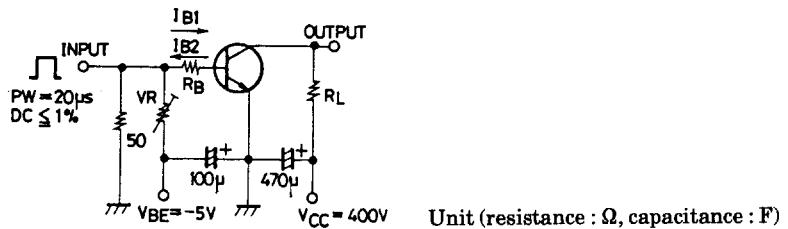
10	K	20	15	L	30	20	M	40
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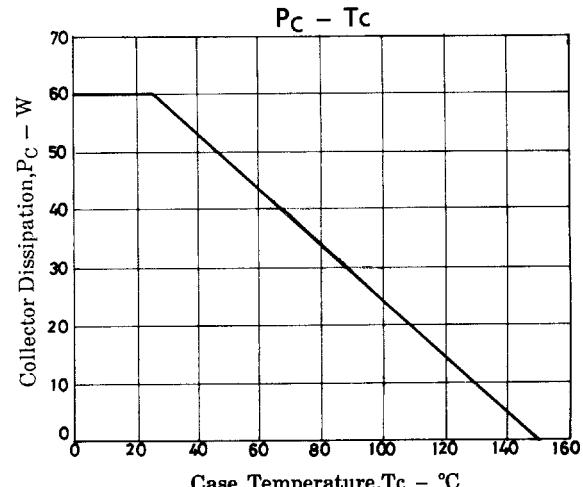
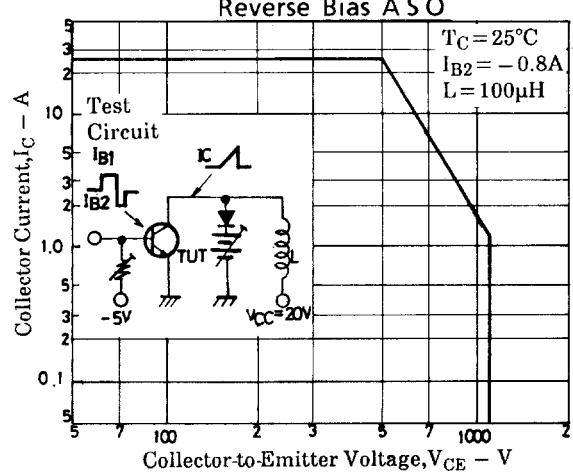
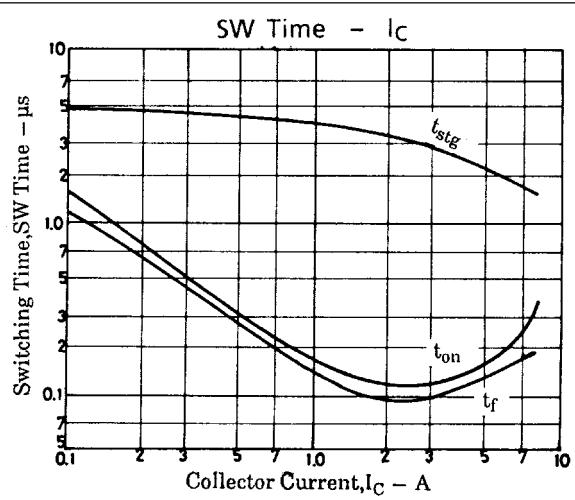
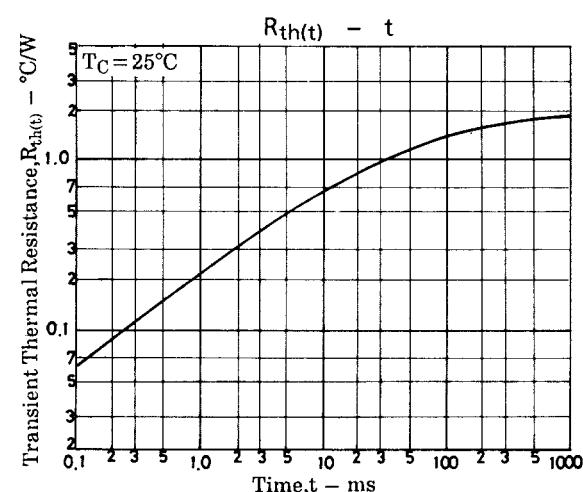
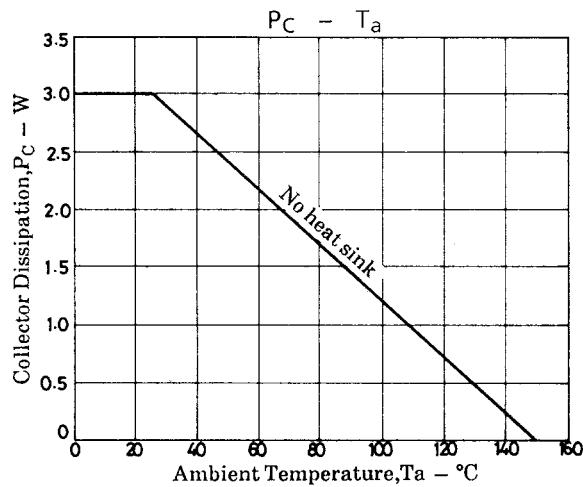
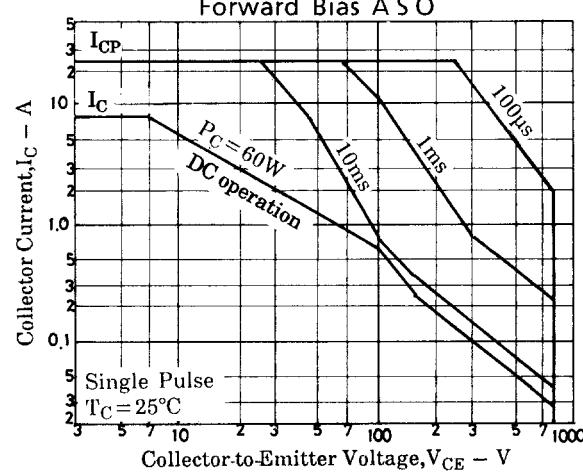
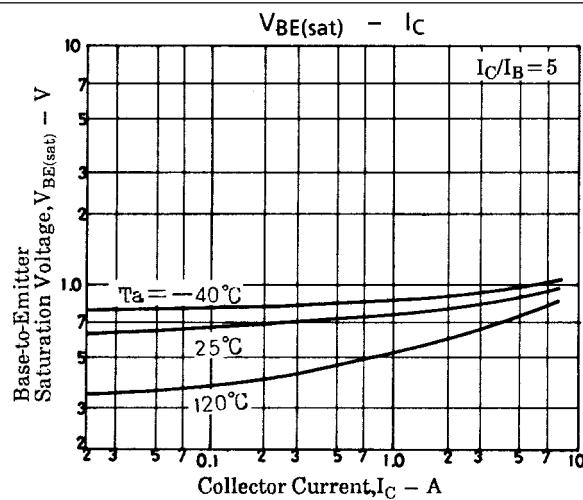
## 2SC4429

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4A, I_B=0.8A$			2.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4A, I_B=0.8A$			1.5	V
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=0.6A$			15	MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$			155	pF
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$		1100		V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$		800		V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$		7		V
Collector-to-Emitter Sustain Voltage	$V_{CEX(sus)}$	$I_C=4A, I_{B1}=0.8A, I_{B2}=-0.8A, L=1mH, \text{Clamped}$		800		V
Turn-ON Time	$t_{on}$	$I_C=6A, I_{B1}=1.2A, I_{B2}=-2.4A, R_L=66.7\Omega, V_{CC}=400V$			0.5	μs
Storage Time	$t_{stg}$	$I_C=6A, I_{B1}=1.2A, I_{B2}=-2.4A, R_L=66.7\Omega, V_{CC}=400V$			3.0	μs
Fall Time	$t_f$	$I_C=6A, I_{B1}=1.2A, I_{B2}=-2.4A, R_L=66.7\Omega, V_{CC}=400V$			0.3	μs

### Switching Time Test Circuit



## 2SC4429



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